PORSF U31
11.3.31.1.1 LWP Uplands
T1 South
DEQ Corresp.

PORT OF PORTLAND

November 12, 2001

Mr. Rodney Struck
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

Subject: Marine Terminal 1 South
Response to Review Comments on Risk Assessment Work Plan
ECSI File No. 2042

Dear Mr. Struck:

The Port of Portland (Port) has prepared the following response to the Oregon Department of Environmental Quality (DEQ) review comments on the Marine Terminal 1 (T1) South Risk Assessment Work Plan, as documented in your letter dated October 25, 2001. The Port's response to DEQ's specific comments (in italics) are summarized below.

DEQ Specific Comments

1) ***Page 2, Section 2.1.1 and Page 4 Section 2.3.1.*** *The locality of the facility should be further assessed and defined in the Risk Assessment, based on the results of the recent groundwater monitoring well installation and sampling. The locality of facility may need to include the Willamette River including sediments if contamination has migrated or may potentially migrate there.*

Response: The Port will incorporate the results of the recent groundwater monitoring in defining the locality of the facility.

2) ***Page 5, Section 2.4.*** *The Risk Assessment should include the results of the recently implemented groundwater monitoring program.*

Response: As stated in Section 3.1.2 of the work plan, the risk assessment will include the results of the recently implemented groundwater monitoring program.

3) ***Page 5, Section 2.5.*** *If the site is to be divided into three (3) areas of concern (AOC) as stated in Section 3.1, then a separate screening procedures needs to occur for each area. Site wide screening is not appropriate. This may lead to different contaminants of concern for each area of concern and different exposure point concentrations.*

Response: The Port will conduct separate risk screenings for each area of concern at this site.

4) ***Page 5, Section 2.5.*** *Exposure point concentrations developed for screening need to include all available data. At this time, DEQ has not received a report documenting groundwater monitoring well installation or the results of the September 2000 groundwater sampling event. It should be recognized that the Risk Assessment might require revision once additional groundwater monitoring rounds have been completed.*

Response: See Comment Response #2. A groundwater monitoring well installation and sampling report is being prepared to document the results of the September 2001 groundwater monitoring event and will be submitted to DEQ.

5) *Page 7, 4th Paragraph.* *DEQ's comments on the Remedial Investigation (RI) report (Letter from DEQ data July 26, 2001) stated "The presence of Bis(2-ethlhexyl)phthalate (DEHP) in site groundwater should be evaluated using data from groundwater monitoring wells. Data collected from on-site monitoring wells should be used to assess if DEHP is a contaminant of potential concern." DEHP is a significant contaminant in Willamette River sediments, which calls into question the assumption that its presence is attributable solely to laboratory contamination. DEHP should be considered a contaminant of concern unless data is presented that clearly documents that it is a laboratory contaminant.*

Response: DEHP previously detected in screening level groundwater samples was not detected in monitoring well counterparts suggesting that the source of DEHP detected during screening level groundwater sampling was from either laboratory and/or equipment contamination. Therefore, it does not appear that further analysis for DEHP is warranted.

6) *Page 9, Areas of Concern (AOC).* *The basis for delineating the three AOCs should be explained. Exposure units (or areas of concern) should consider contaminant distribution and/or the future development of the site. The work plan indicates that the three exposure units are based on future development of the site, which is appropriate. However, supportive information needs to be provided to support the divisions. Present site development plans if available. If the three areas of concern are to be divided further by development, it may be appropriate to divide the site into more than three exposure units given the contaminant distribution.*

Response: The three areas of concern were selected for this site based on contaminant distribution, the areas of the site identified as having petroleum contaminated soils during the RI, and future development plans for the site. The areas of concern are presented in the work plan and cover all of the areas of contaminated soil identified in the RI. A preliminary major land division site plan is included as an attachment.

7) *Page 14, Section 3.2.3, Paragraph 3.* *Lead screening should be based on 400 mg/kg for residential and 750 mg/kg for commercial / occupational worker. DEQ's 1999 Risk Based Concentrations have not been updated to reflect the 2000 change in the lead screening PRG, which was updated to protect pregnant women that potentially could be exposed in the workplace.*

Response: The meaning of this comment is unclear. The comment states that "*DEQ's 1999 Risk Based Concentrations (RBCs) have not been updated*" and we have presented the 1999 Lead Soil RBCs in the work plan. We are willing to use the appropriate lead soil RBCs as recommended by DEQ.

8) *Page 15, Section 3.2.4.* *Because TPH cannot be evaluated quantitatively, it should be evaluated quantitatively in the risk assessment. In addition, TPH would be considered a contaminant of concern.*

Response: The Port will present a qualitative evaluation of TPH levels present at this site.

9) *Page 16, Section 3.3.2.* *RBC Method. In evaluating non-carcinogenic effects to soil the equation should include the body weight and incidental ingestion rate for a child instead of an adult (equation A.10 in Guidance for Conduct of Deterministic Human Health Risk Assessments, DEQ1998).*

Response: The work plan proposes that, for non-carcinogenic effects, the soil ingestion, dermal contact with soil, and inhalation of particulates and volatiles from surface soil pathways will be evaluated based on child exposure assumptions (see Section 3.3.1 Intake Method). Additionally, the work plan proposes that the non-carcinogenic effects associated with the inhalation of volatiles that have migrated from *in-situ* subsurface soil and groundwater will be evaluated based on adult exposure assumptions (see Section 3.3.2 RBC Method). Therefore, the total non-carcinogenic hazard estimate for all exposure pathways would be sum of pathway-specific hazard estimates based on a combination of child and adult exposure estimates. The use of child-based exposures for some exposure pathways and adult-based exposure pathways is conservative (i.e., the receptor with the highest intake rate is used for each exposure pathway) and is consistent with DEQ's Risk-Based Decision Making (RBDM) guidance. Hart Crowser has discussed this issue with Mr. Mike Poulson of DEQ, who stated that the methodology presented in the work plan is consistent with standard DEQ risk assessment practices. Mr. Poulson also stated that evaluating the inhalation pathway based on adults is only slightly more conservative that basing the evaluation on children and that the resulting total non-carcinogenic hazard estimates based on the methodology presented in the work plan would only be slightly higher than if the hazard estimate was based on children exclusively.

10) Page 18, Ecological Risk Evaluation. *The Level I Ecological Risk Assessment (ERA) must address potential contaminant migration to the Willamette River, including overland transport, storm water runoff, free phase product migration, direct release, and/ or groundwater contaminant migration. Potential risks to ecological receptors (i.e., sediments and surface water receptors) associated with potential contaminant migration from the site to Willamette River sediments and surface water, if any, must be identified and addressed. Also, please define a "modified" Level 2 Screening ERA.*

Response: The Port will conduct the Level 1 Scoping in accordance with DEQ guidelines and will consider all potential contaminant migration pathways present at this site. However, analytical testing of groundwater samples from MW-3, MW-5, and MW-7 located in upland areas near the Willamette River did not detect COPCs above Ecological Screening Benchmark Values with the exception of total (unfiltered) lead in MW-3 and MW-7, and total (unfiltered) copper in MW-3. However, the unfiltered concentrations of total lead and copper were reduced to non-detect levels in filtered samples suggesting the cause of elevated metal concentrations are from suspended particulate, and accordingly, unfiltered lead and copper samples are either not representative or are a conservative underestimate of true groundwater quality at the site. The results suggest that there is not a complete pathway of Site COPCs to surface water adjoining the Site.

A "modified Level 2 Screening ERA" is defined as follows:
Modified Ecological Risk Screening. If any exposure pathways of concern are identified for ecological receptors at the T1 Site based on the results of the Level 1 – Scoping ERA, a modified Level 2 – Screening ERA will be completed. Similar to the human health risk screening, the maximum detected concentration of compounds of interest will be compared against appropriate DEQ Ecological Screening Benchmarks Values. This screening will be conducted to evaluate whether there are contaminants present at this site at levels of potential concern for ecological receptors. This screening will also be completed to establish a preliminary set of ecological COPCs for this site. If all of the maximum detected concentrations of COIs are below ecological screening values for any identified exposure pathways of concern, it will be concluded that no further ecological risk assessment activities are warranted at the site.

A full Level 2 Screening ERA will be conducted, if necessary, at this site.

11) *Table 1, Soil Ingestion.* *Based on EPA's recommendations (EPA, 1998a), exposures to non-carcinogenic contaminants in residential soils should be evaluated for children only. This*

includes using a child's body weight and incidental ingestion rate in equation A.10, Page A-4 in Guidance for Conduct of Deterministic Human Health Risk Assessments. See also Comment # 9.

Response: See Comment Response #9.

12) *Figure 3, Conceptual Site Model.* *The conceptual site model should include ecological pathways (e.g., groundwater to surface water, storm water runoff) and receptors.*

Response: An Ecological Conceptual Site Model will be presented in the risk assessment report after the Level 1 Scoping ERA is completed. The objective of a Level 1 Scoping ERA is to provide a conservative qualitative determination of whether there is any reason to believe that ecological receptors and/or exposure pathways are present or potentially present at a site. An ecological conceptual site model will be developed after it is determined what exposure pathways and/or receptors may be present at a site.

Please contact me at (503) 944-7533 with any questions.

Sincerely,

Joe Mollusky
Environmental Project Manager
Properties and Development Services

Attachment

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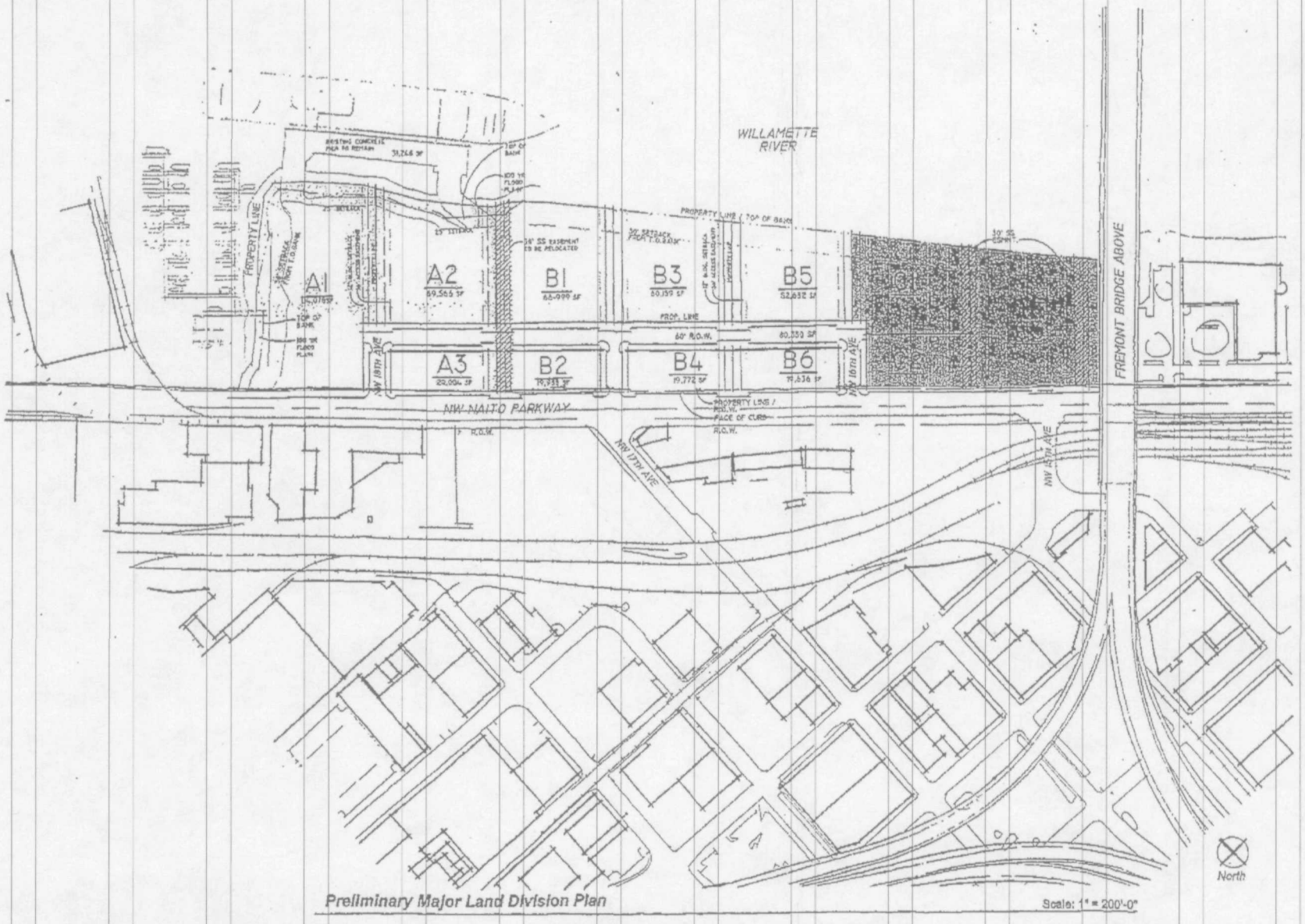

Preliminary Major Land Division Plan

Scale: 1" = 200'-0"

GGLO

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SITE PLAN - Preliminary Major Land Division

Terminal One - South

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Portland, Oregon

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September 7, 2001

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